

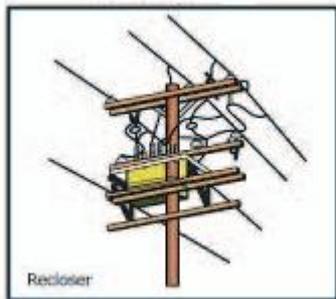
WHAT IS THAT HANGING ON THE POLE?

AN OVERVIEW OF DISTRIBUTION AUTOMATION DEVICES

WE DELIVER.



WHAT IS THAT HANGING ON THE POLE?

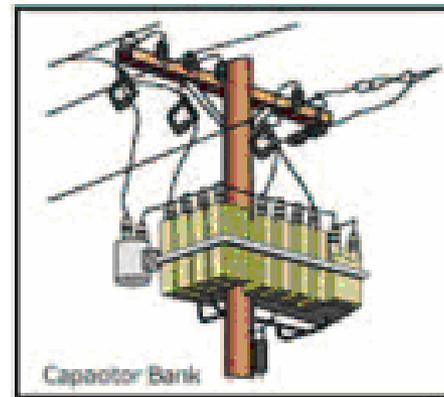


- Reclosers are mechanical devices that can react to a short circuit by interrupting electrical flow and automatically reconnect a short time later. They function as circuit breakers on the feeder circuit and are located throughout the distribution system to prevent a permanent outage due to a temporary fault.
- If an outage occurs, reclosers will localize the fault in order to minimize the number of customers affected. If a permanent outage occurs, the recloser will sectionalize downstream customers, allowing upstream customers to have power restored automatically.
- Reclosers can be designed to support a single-phase or three-phase wire configuration.

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Capacitors are found in substations and on poles. A capacitor momentarily stores electricity to help control and improve voltage regulation.

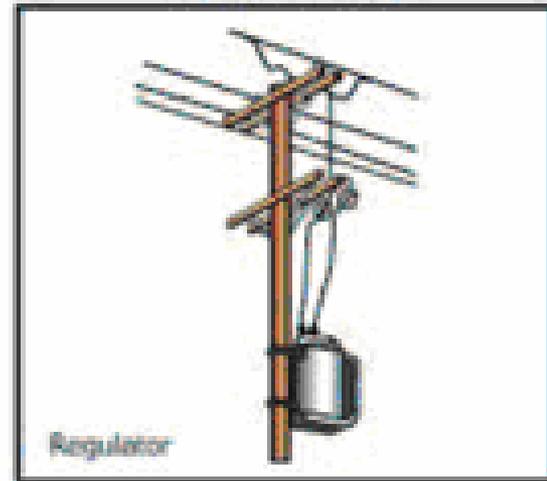


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A fuse is a device designed to stop the flow of electricity in the event of a short circuit. Once a fuse works it must be replaced.

Regulators maintain the voltage depending on customer demand for electricity.



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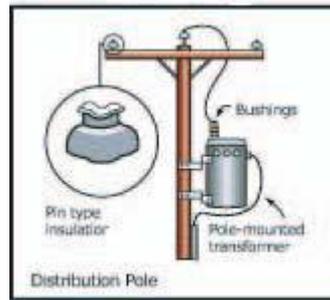
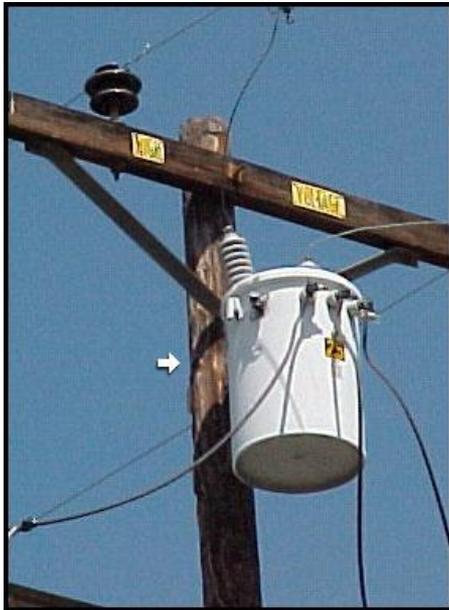
Smart switches are automated switches that continuously communicate with each other via radio. They are deemed “smart” because they are able to make decisions about the network or “electric grid” and help restore power to most homes when an outage occurs. Normal switches are operated manually, although some can be controlled remotely. These smart switches are all automated, requiring no human intervention.

These self-healing switches work in teams to isolate problems on the network when an outage occurs. Once the fault is isolated, the switches automatically re-route the electricity around the trouble line or feeder section to homes that are not on the line section causing the trouble.

The proactive network monitoring of smart switches increases network reliability because more homes can be restored quickly, typically within one minute. The faster that the switches can communicate with each other, the faster the problem can be located. An emergency responder crew then does not need to drive up and down the length of the line to locate the problem.

WHAT IS THAT HANGING ON THE POLE?

A transformer is a device that can be placed on a pole or on the ground. Its function is to reduce or step down voltage.



At key locations along the distribution system, voltage is lowered by distribution transformers to the level needed by customers.



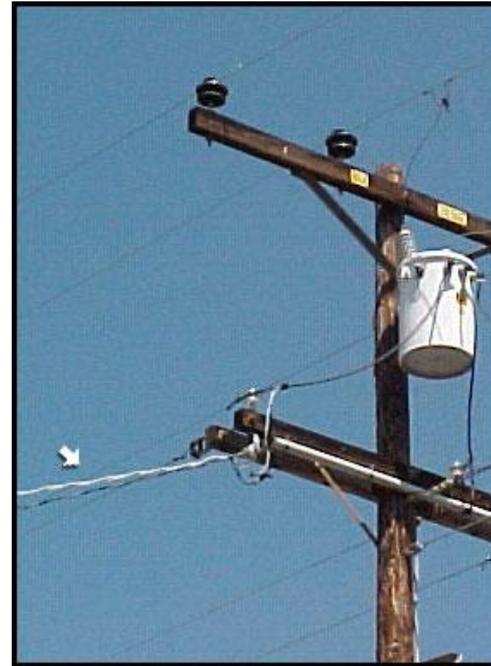
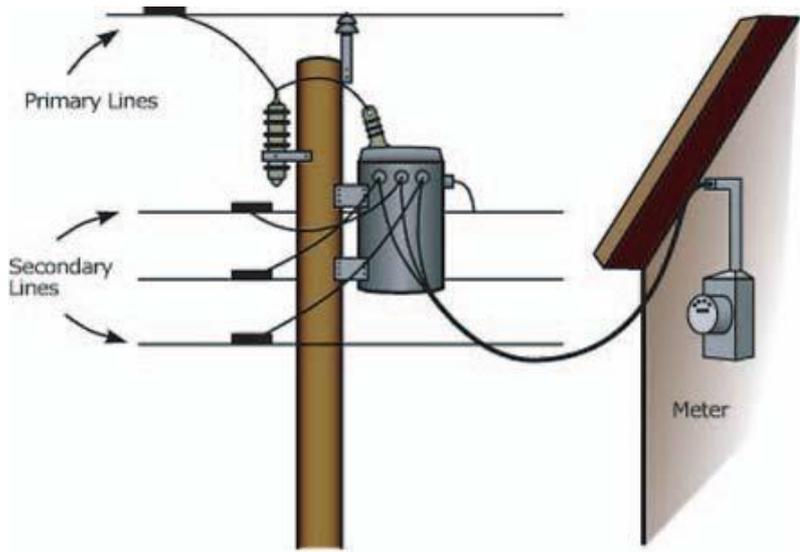
A Pad Mount Transformer is a ground-mounted version of an overhead transformer.

Lines on the high-voltage side of the distribution transformer are called primaries, and those on the low-voltage side of the transformer are called secondaries. Secondary lines tie to the transformer and run from pole to pole. The customer's service drop runs from the secondary line or transformer to a meter of service entrance.

WHAT IS THAT HANGING ON THE POLE?

(Typical home residence)

The service line, or service drop, are the wires that run from the power pole or transformer to the meter at the residence. The service drop consists of two 120 volt lines and a neutral line from which customers run their appliances on 120 or 240 volts of power.



There are two kinds of electric lines on the distribution system: three-phase or single-phase. Customers who need large amounts of electricity to run heavy machinery require three-phase service. Residential customers use single-phase service.